

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (original) A method for tuning read head bias, comprising:

providing a slider body having an air bearing surface and an opposing top surface;

forming a pair of parallel and overlapping magnetic shields at one end of the slider body and sandwiching a magneto-resistive read stack between said shields to form a magnetic read head that has an air bearing surface which is coplanar with that of the slider body; and

mounting on said top surface a permanent magnet, thereby effecting polarization of the shields at the air bearing surface and enabling said magnetic read head's bias point to be tuned.

2. (original) The method of claim 1 further comprising narrowing and tapering said shields near said air bearing surface thereby enhancing said tuning of the read head's bias point.

3. (original) The method of claim 1 wherein the step of tuning the magnet read head with respect to its bias point is performed in combination with perpendicular recording disk media having a magnetically soft underlayer.

4. (original) The method of claim 1 wherein said magneto-resistive read stack is a GMR sensor or a MTJ sensor.

5. (original) The method of claim 1 wherein said bias point relates to a biasing scheme that is selected from the group consisting of abutted hard bias, abutted exchange bias, patterned exchange bias, and lead over-lay.

6. (original) The method of claim 1 wherein said magneto-resistive read stack is a CIP type or a CPP type.

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7 - 21. Canceled.

22. (original) A read head that has been tuned for read head bias, comprising:

a slider body having an air bearing surface and an opposing top surface;

a pair of parallel and overlapping magnetic shields at one end of the slider body
and a magneto-resistive read stack between said shields, together forming a magnetic
read head that has an air bearing surface which is coplanar with that of the slider body;
and

a permanent magnet, having a magnetic axis parallel to said top surface,
mounted on said top surface.

23. (original) The read head of claim 22 wherein said shields have been narrowed and
tapered near said air bearing surface thereby enhancing said tuning of the read head's
bias point.

24. (original) The read head of claim 22 wherein said magneto-resistive read stack is a
GMR sensor or a MTJ sensor.

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25. (original) The read head of claim 22 wherein said bias point relates to a biasing scheme that is selected from the group consisting of abutted hard bias, abutted exchange bias, and patterned exchange bias.

26. (original) The read head of claim 22 wherein said magneto-resistive read stack is a CIP type or a CPP type.

27 – 40. Canceled.